

REMARKS

By this Amendment, Applicant amends claims 1, 17-19, 23, 37-39, 43-45, 49, 53-55, and 58 and adds new claims 59 and 60. Claims 1-60 are therefore pending in this application.

In the Office Action of December 2, 2005,¹ claim 7 was objected to for informalities; claims 1-58 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter; claims 1, 23, 55, and 58 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite; claims 1, 2, 4-24, and 26-58 were rejected under 35 U.S.C. § 102(b) as anticipated by Feehery, W.F. et al., “A Differential-Based Approach to Dynamic Simulation and Optimization with High-Index Differential-Algebraic Equations” (“Feehery”); and claims 3 and 25 were rejected under 35 U.S.C. § 103(a) as unpatentable over *Feehery* in view of “3.1 Associating Objects in C++” (“*Objects in C++*”). Applicant addresses the objection, rejections, and new claims below.

Objection to claim 7

The Examiner objected to claim 7 for informalities. Specifically, the Office Action notes that the recitation in claim 7 of “by symbolically” should instead read “be symbolically.” Office Action at p. 2. By this Amendment, Applicant amends claim 7 to cure the informality noted in the Office Action. Applicant deems the objection overcome and requests its timely withdrawal.

Section 101 Rejection

Applicant traverses the § 101 rejection of claims 1-58 because these claims are statutory. According to the Federal Circuit, the inquiry of whether a claim is statutory focuses on “the essential characteristics of the subject matter, in particular, its practical utility.” *State Street*

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether or not any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1375, 47 USPQ2d (BNA) 1596, 1602 (Fed. Cir. 1998). If a claim includes recitations that produce “a concrete, tangible and useful result,” the claim is not abstract and has practical utility. *See id.* at 1373, 1600-01; *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999), 50 USPQ2d 1447, 1451-52. And if the claim is not abstract and has practical utility, it is statutory under 35 U.S.C. § 101.

The Examiner alleged that Applicant’s claims do not “recite either a useful, tangible or a concrete result.” Office Action at p. 4. In particular, the Examiner alleged: (1) the claimed invention “is not useful because neither the specification or the claims provide a specific use for the claimed invention;” (2) the “method claims are not tangible because only a mathematical construct is claimed;” and (3) “[n]one of the claims are concrete because there is no identifiable output.” *Id.* Applicant disagrees with the Examiner, as discussed below.

First, Applicant’s claimed invention is useful. The specification explains that the claimed invention is useful for simulating a system, which allows analyzing and predicting the behavior and performance of the system.² *See, e.g.*, page 1. In addition, independent claims 1, 23, and 55 recite, *inter alia*, a “method of simulating a system.” Likewise, amended independent claims 43, 44, 53, and 54 recite, *inter alia*, “simulating systems,” and independent claim 58 recites, *inter alia*, a “method of simulating a component.” Further, amended independent claims 45 and 49 recite methods performed or used by an “application that simulates a system.” Accordingly, Applicant’s claims and specification provide a specific use for the claimed invention. Indeed, Applicant’s claims produce useful, non-abstract results, such as systems for simulation and

² In referring to the specification above, Applicant does not intend to limit the scope of the claims to the exemplary embodiments shown in the drawings and described in the specification. Rather, Applicant expressly affirms the entitlement to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

equations and/or data used for simulating systems, which allow, for example, system analysis and prediction.

Moreover, the subject matter defined by Applicant's claims is tangible. The claims recite more than mere mathematical constructs. Applicant calls attention to the PTO's "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," which states:

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. (Pages 21-22, internal citations omitted.)

In this case, the claims set forth the practical application of simulating systems, which allows system analysis and prediction. Additionally, the recitations of "establishing [and defining] equations" and performing "processing" in claims 1, 23, 55, and 58 are neither abstract nor mere intangible mathematical constructs. Similarly, at least the "processing," "performing," and "generating" features recited in claims 43, 44, 53, and 54, respectively, are not mere mathematical constructs. Instead, these features are non-abstract and tangible. Likewise, at least the recitation of a "computer-based application that simulates a system" in claims 45 and 49 is non-abstract and tangible. For at least these reasons, Applicant's claims are non-abstract and tangible.

Additionally, Applicant's claims define subject matter that is concrete. The claimed invention does indeed produce an identifiable output. For example, the claims produce results, such as systems for simulation and equations for simulation. These results facilitate simulations

of systems, which may allow system analysis and prediction. In addition, these results can be “substantially repeatable,” as required. *See id.* at 22.

Applicant again calls attention to the PTO’s “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility,” which states (on pages 17-18):

While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be (emphasis added). In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself (emphasis added).

Even if Applicant’s claims could be said to include abstract elements, although Applicant disputes that notion, the Examiner has not established that each of the claims, as a whole, fails to provide a particular application of those elements. Indeed, as discussed above, Applicant’s claims and specification provide particular, real-world applications of the claimed invention, such as simulating a system, allowing for example system analysis and prediction. In addition, as discussed above, Applicant’s claims include recitations that are non-abstract and tangible.

Independent claims 1, 23, 43-45, 49, 53-55, and 58 are drawn to subject matter that provides useful, concrete, and tangible results, and are therefore not abstract but, rather, statutory under 35 U.S.C. § 101. Likewise, dependent claims 2-22, 24-42, 46-48, 50-52, 56, and 57 are drawn to subject matter that provides useful, concrete, and tangible results and are therefore statutory. Accordingly, Applicant requests withdrawal of the rejection of claims 1-58 under 35 U.S.C. § 101.

Section 112 Rejection

The Office Action rejected claims 1, 23, 55, and 58 under § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim that which Applicant

regards as the invention. Office Action at p. 4. The Office Action alleged that “[t]here is insufficient antecedent basis for” the recitation of “the term” in claims 1, 23, 55, and 58. *Id.*

By this Amendment, Applicant amends claims 1, 23, 55, and 58 to recite, *inter alia*, “terms having characteristics encapsulated within the terms.” Applicant submits that claims 1, 23, 55, and 58, as currently presented, are fully compliant with § 112, second paragraph. The subject matter defined by amended claims 1, 23, 55, and 58 is set forth with a reasonable degree of clarity and particularity and a skilled artisan would be apprised of the scope of these claims from the claim language itself and the supporting disclosure. *See* M.P.E.P. 2173.02. Applicant thus requests withdrawal of the § 112 rejection of claims 1, 23, 55, and 58.

Section 102(b) Rejection

I. Regarding the Feehery document

The Examiner has not established that *Feehery* qualifies as prior art under 35 U.S.C. § 102(b). The Office Action indicates *Feehery*’s copyright date as 1996. To the extent the Examiner may be applying *Feehery* as a “printed publication,” Applicant reminds the Examiner of the requirement for “a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.”

M.P.E.P. § 2128 (internal citations omitted). Further, an electronic publication cannot be relied upon as prior art under § 102 if it does not include a publication date or retrieval date. *See* M.P.E.P. § 2128. The Examiner has not established that *Feehery*’s supposed 1996 copyright date is relevant to its availability, publication, or retrieval. Unless the Examiner produces the requisite proof of *Feehery*’s dissemination and availability more than one year prior to Applicant’s filing date (*See* M.P.E.P. § 2128), *Feehery* is not a competent prior art reference within the context of § 102(b) and cannot be used as a basis to reject Applicant’s claims.

Applicant requests that the Examiner either produce the requisite proof of dissemination and availability of *Feehery* or else withdraw the § 102(b) rejection based on that reference.

II. Regarding the merits of the rejection

Regardless of whether *Feehery* is in fact a proper § 102(b) reference, Applicant traverses the § 102(b) rejection of claims 1, 2, 4-24, 26-58 because the disclosure of *Feehery* fails to anticipate the claims. In order to properly anticipate Applicant's claimed invention under 35 U.S.C. § 102, a single prior art reference must disclose each and every element of the claim at issue, either expressly or under principles of inherency. Further, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” *See* M.P.E.P. § 2131. Also, “[t]he elements must be arranged as required by the claim.” *Id.*

With regard to claim 1, *Feehery* fails to teach at least “performing system processing” as claimed. *Feehery* discloses a “high level modeling environment with an interpretive software architecture” (page 245). *Feehery*’s system “creates data structures representing the model equations.” *Id.* The data structures “are ‘interpreted’ by numerical algorithms . . .” *Id.* *Feehery*’s system uses “symbolic differentiation to derive an equivalent index-1 DAE [Differential-Algebraic Equation]” and then a numerical algorithm (DSL48S) “to solve the equivalent index-1 DAE” (page 248-49).

Although *Feehery* discloses a modeling environment using symbolic differentiation and numerical algorithms, the reference does not disclose “performing system processing for efficient simulation, wherein performing system processing includes processing a first set of equations including equations modeling the system and initial condition constraints and processing a second set of equations including equations modeling the system and numeric integration equations,” as recited in claim 1. Because *Feehery* does not teach each and every feature of claim 1, as a matter of law, it cannot anticipate this claim. As a result, the § 102(b)

rejection of claim 1 based on *Feehery* should be withdrawn. Claims 2-22 depend upon claim 1 and are distinguishable from *Feehery* for at least reasons similar to those presented above in connection with claim 1. Applicant therefore requests withdrawal of the § 102(b) rejection and the timely allowance of claims 1-22.

Independent claim 23 recites features similar to those of claim 1, although claim 23 is of different scope than claim 1. For example, claim 23 recites, *inter alia*, “performing system processing for efficient simulation, wherein performing system processing includes processing a first set of equations including equations modeling the system and initial condition constraints and processing a second set of equations including equations modeling the system and numeric integration equations.” The §102(b) rejection of claim 23 based on *Feehery* should be withdrawn for at least reasons similar to those presented above in connection with claim 1. The § 102(b) rejection of claims 24-42 should be withdrawn as well, since each of those claims depends upon claim 23 and is similarly distinguishable from *Feehery*. Accordingly, Applicant requests withdrawal of the § 102(b) rejection and the timely allowance of claims 24-42.

As to independent claim 43, *Feehery* fails to disclose at least symbolically processing a set of equations including “assigning a portion of the set of equations to variables that have non-zero partial derivatives,” as claimed. Contrary to the Examiner’s position, *Feehery*’s disclosure regarding “non zero partial derivatives” (page 245) does not constitute the claimed “assigning.” *See* Office Action at pp. 11-12. In *Feehery*’s system, a function is stored in a binary tree (page 245). The binary tree can then be “analyzed to yield a subset of the unknowns appearing in the function.” *Id.* The binary tree is then “analyzed using standard recursive algorithms to derive a set of binary trees representing the non zero partial derivatives of the function.” *Id.* Deriving a set of binary trees representing non-zero partial derivates of a function is not the same as

“assigning a portion of . . . [a] set of equations to variables that have non-zero partial derivatives,” as claimed. Indeed, *Feehery* fails to disclose at least this claimed “assigning” aspect of claim 43 in combination with all of the other claimed features.

In addition, *Feehery* fails to disclose at least “eliminating an integral as each symbolically differentiated or integrated equation eliminates a numeric integration, such that the integral is converted to an algebraic variable by eliminating the derivative or integral relationship,” as recited in claim 43. The Examiner noted *Feehery*’s disclosure that, “[i]n the case of a combined function and gradient evaluation, correct application of the reverse mode algorithm guarantees that the binary product corresponding to each edge in the computational graph is evaluated exactly once . . .” Office Action at p. 12 (citing *Feehery*, page 246). Neither the relied-upon portion nor any other portion of *Feehery* discloses this claimed “eliminating” aspect of claim 43.

Because *Feehery* does not teach each and every feature of claim 43, as a matter of law, it cannot anticipate this claim. Thus, the § 102(b) rejection of claim 43 based on *Feehery* should be withdrawn. Applicant therefore requests withdrawal of the § 102(b) rejection and the timely allowance of claim 43.

Independent claim 44 recites features similar to those of claim 44, although claim 44 is of different scope than claim 43. For example, claim 44 recites, *inter alia*, “assigning” and “eliminating” features similar to those of claim 43. The § 102(b) rejection of claim 44 based on *Feehery* should be withdrawn for at least reasons similar to those presented above in connection with claim 43. Accordingly, Applicant requests withdrawal of the § 102(b) rejection and the timely allowance of claim 44.

With regard to claim 45, *Feehery* fails to disclose at least “assigning a preferred integration location rank to one or more integrals,” as claimed. In rejecting claim 45, the

Examiner noted that, in the interpretative formula disclosed by *Feehery*, “each partial derivative represents the sum over all the paths from the relevant variable node to the function node of the products of elementary derivatives along each path.” Office Action at p. 12 (citing *Feehery*, page 246). That each partial derivative in *Feehery*’s formula might represent a sum over all paths from certain nodes does not support the Examiner’s position that *Feehery* discloses a method having all the claimed features including the “assigning,” aspect. Further, although *Feehery* discloses the use of a modified Pantelides algorithm (see, e.g., pages 242-44), the reference does not teach a method of “eliminating an integral in a Pantelides algorithm” including “assigning a preferred integration location rank to one or more integrals,” as required by claim 45.

Indeed, neither the cited portion of *Feehery* nor any other portion of the reference discloses the “assigning” feature of claim 45. Because *Feehery* does not teach each and every feature of claim 45, as a matter of law, it cannot anticipate this claim. The § 102(b) rejection of claim 45 based on *Feehery* should therefore be withdrawn. Accordingly, Applicant requests withdrawal of the § 102(b) rejection and the timely allowance of claim 45.

Independent claim 49, although of different scope than claim 45, recites features similar to those of claim 45. For example, claim 49 recites, *inter alia*, “assigning a preferred integration location rank to one or more integrals.” The § 102(b) rejection of claim 49 based on *Feehery* should be withdrawn for at least reasons similar to those presented above in connection with claim 45. Applicant thus requests withdrawal of the § 102(b) rejection and the timely allowance of claim 49.

As to independent claim 53, Applicant notes, initially, that the Examiner failed to indicate how *Feehery* applies to the specific features of the claim. Instead, the Examiner merely provided a general allegation that the features of claim 53 are taught in a certain section of *Feehery*,

without addressing how the cited art applies to each and every feature of the claim. *See* Office Action at pp. 14-15 (citing *Feehery*, Section 6. Demonstration and Numerical Results). The Examiner appears to be attempting to improperly shift the burden to Applicant to identify any potentially relevant passages from the reference and respond accordingly. Applicant submits that such practice does not meet the requirements of 37 C.F.R. § 1.104(c), which requires the Examiner to explain the pertinence of each reference relied upon, and the requirements of M.P.E.P. § 706.02(j), which states that the examiner should set forth “the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s).” Furthermore, Applicant submits that such practice does not comply with M.P.E.P. § 706, which states that “[t]he goal of examination is to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity. Nonetheless, to be fully responsive, Applicant provides the following remarks regarding the cited references. Should the Examiner continue to dispute the patentability of the claims, however, Applicant requests a new non-final Office Action identifying how the cited reference(s) support such a position.

Feehery fails to teach any method having all of the features of claim 53, including a “tearing process” as set forth in the claim. *Feehery*’s demonstration of the disclosed “ABACUSS” system using “the standard index-3 two-dimensional rigid pendulum problem in Cartesian coordinates” does not describe the method of simulating systems, including performing a tearing process on a set of equations, as set forth in claim 53. *Feehery*, p. 249. For at least these reasons, the § 102(b) rejection of claim 53 based on *Feehery* should be withdrawn. Accordingly, Applicant requests withdrawal of the § 102(b) rejection and the timely allowance of that claim.

Independent claim 54, although of different scope than claim 53, recites a method of simulating systems including “performing a tearing process on a set of equations” similar to that of claim 53. For at least reasons similar to those presented above in connection with claim 53, Applicant requests withdrawal of the § 102(b) rejection and the timely allowance of claim 54.

Independent claim 55 recites features similar to those of claim 1, although claim 55 is of different scope than claim 1. For example, claim 55 recites, *inter alia*, “performing system processing for efficient simulation, wherein performing system processing includes processing a first set of equations including equations modeling the system and initial condition constraints and processing a second set of equations including equations modeling the system and numeric integration equations.” The §102(b) rejection of claim 55 based on *Feehery* should be withdrawn for at least reasons similar to those presented above in connection with claim 1. The § 102(b) rejection of claims 56 and 57 should be withdrawn as well, since each of those claims depends upon claim 55 and is similarly distinguishable from *Feehery*. Accordingly, Applicant requests withdrawal of the § 102(b) rejection and the timely allowance of claims 55-57.

Independent claim 58 recites features similar to those of claim 1, although claim 58 is of different scope than claim 1. For example, claim 58 recites, *inter alia*, “performing system processing for efficient simulation, wherein performing system processing includes processing a first set of equations including equations modeling the component and initial condition constraints and processing a second set of equations including equations modeling the component and numeric integration equations.” For at least reasons similar to those presented above in connection with claim 1, Applicant requests withdrawal of the § 102(b) rejection and the timely allowance of claim 58.

Section 103(a) Rejection*I. Regarding the applied references*

In order to maintain a rejection under 35 U.S.C. § 103(a), the references used to support the rejection must qualify as prior art under § 102. *See* M.P.E.P. § 2141.01. In this case, the Examiner has failed to establish that either of the applied references qualifies as prior art. The Examiner has not established that *Feehery* qualifies as prior art. As explained above, the Examiner has not established that *Feehery*'s supposed 1996 copyright date is relevant to its availability, publication, or retrieval. Unless the Examiner produces the requisite proof of *Feehery*'s dissemination and availability prior to Applicant's filing date (*See* M.P.E.P. § 2128), *Feehery* is not a competent prior art reference within the context of § 102 and thus cannot be used as a basis to reject Applicant's claims under § 103. *See* M.P.E.P. § 2141.01.

Additionally, the Examiner has not established that *Objects in C++* qualifies as prior art under § 102. The *Objects in C++* document appears to be a printout of an Internet file, presumably extracted from a larger work. The document bears "Last Updated" dates of July 3 and July 24, 1996. To the extent the Examiner may be applying *Objects in C++* as a "printed publication" within the meaning of § 102, Applicant reminds the Examiner of the requirement for "a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it." M.P.E.P. § 2128 (internal citations omitted). Further, an electronic publication cannot be relied upon as prior art under § 102 if it does not include a publication date or retrieval date. *See* M.P.E.P. § 2128. In this case, the Examiner has not established that the dates of July 3 and 24, 1996, are relevant to the document's availability, publication, or retrieval. Unless the Examiner produces the requisite proof of dissemination and availability prior to Applicant's filing date (*See* M.P.E.P. § 2128), *Objects in C++* is not a

competent prior art reference within the context of § 102 and thus cannot be used to reject Applicant's claims under § 103. *See* M.P.E.P. § 2141.01.

Applicant requests that the Examiner either produce the requisite proof of dissemination and availability of the applied references or else withdraw the § 103 rejection based on those references.

II. Regarding the merits of the rejection

Regardless of whether *Feehery* and *Objects in C++* are in fact valid prior art references, Applicant traverses the § 103(a) rejection of claims 3 and 25 because a case for *prima facie* obviousness has not been established. As M.P.E.P. § 2142 states, “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.” To establish *prima facie* obviousness under 35 U.S.C. § 103(a), three requirements must be met. First, the applied references, taken alone or in combination, must teach or suggest each and every element recited in the claims. *See* M.P.E.P. § 2143.03 (8th ed. 2001). Second, there must be some suggestion or motivation, either in the reference(s) or in the knowledge generally available to one of ordinary skill in the art, to combine or modify the reference(s) in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of these requirements must “be found in the prior art, and not be based on applicant’s disclosure.” M.P.E.P. § 2143 (8th ed. 2001).

Claims 3 and 25 depend upon claims 1 and 23, respectively. For at least the reasons presented above, *Feehery* does not teach or suggest each and every element recited in claims 1 and 23. In particular, *Feehery* does not teach or suggest at least the “performing system processing” features of claims 1 and 23. *Feehery* thus does not teach or suggest each and every element recited in dependent claims 3 and 25, which require all of the features of base claims 1 and 23, respectively.

Objects in C++ does not cure *Feehery*'s deficiencies. *Objects in C++* describes associating objects in the C++ programming language. The reference does not teach or suggest at least "performing system processing," as recited in claims 1 and 23 and required by dependent claims 3 and 25. Accordingly, the applied references, taken alone or in combination, do not teach or suggest each and every element recited in claims 3 and 25. As such, a *prima facie* case of obviousness has not been established with respect to those claims.

Moreover, *prima facie* obviousness has not been established with respect to claims 3 and 25 at least because the requisite motivation to modify *Feehery* in view of *Objects in C++* in a manner resulting in Applicant's claimed combination is lacking. According to the Federal Circuit, "virtually all [inventions] are combinations of old elements." *See e.g., In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998) (citations omitted). An examiner may find every element of a claimed invention in the prior art but mere identification is not sufficient to negate patentability. *Id.* The court explained that "the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." *Id.*

In addition, determinations of obviousness must be supported by evidence on the record. *See In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001), 59 USPQ2d 1693, 1696-98 (finding that the factual determinations central to the issue of patentability, including conclusions of obviousness by the Board, must be supported by "substantial evidence"). The desire to combine or modify references must be proved with "substantial evidence" that is a result of a "thorough and searching" factual inquiry. *See In re Lee*, 277 F.3d 1338, 1343-1344 (Fed. Cir. 2002), 61 USPQ2d 1430, 1433 (quoting *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52).

Additionally, the Federal Circuit has clearly stated that the evidence of a motivation or suggestion to modify a reference must be “clear and particular.” *In re Dembicziak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

In this case, the Office Action does not show, by “clear and particular” evidence, that a skilled artisan considering *Feehery* and *Objects in C++*, and not having the benefit of Applicant’s disclosure, would have been motivated to modify or combine the references in a manner resulting in Applicant’s claimed combination. The Examiner alleged that a skilled artisan would have modified *Feehery* in view of *Objects in C++* “because it was old and well known to use an object-oriented language such as C++ in order to implement mathematical algorithms on a computer.” Office Action at p. 17. This conclusory allegation in the Office Action is not properly supported and does not establish a motivation or suggestion for modifying *Feehery* as alleged or in a manner resulting in the invention defined by Applicant’s claims. Regardless of whether using of C++ to perform mathematical algorithms was well known, to which Applicant does not acquiesce, the Examiner provides no evidence from the references or from the knowledge available to those skilled in the art showing a motivation for the alleged modification. Indeed, the Examiner points to no motivation, other than to attempt to meet the terms of Applicant’s claims, for the alleged modification.

As M.P.E.P. § 2143.01 makes clear, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination” (citations omitted). In this case, the Examiner has not shown that *Feehery* or *Objects in C++* “suggests the desirability” of the alleged combination or of a combination resulting in the invention defined by Applicant’s claims.

Applicant submits that the Examiner is impermissibly using teachings of the present application in hindsight to piece together isolated disclosures of the applied references. Examiners, however, may not pick and choose among isolated disclosures in references to defeat patentability of a claimed invention. Such picking and choosing amounts to improper hindsight reconstruction, and is prohibited. *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). For at least the foregoing additional reasons, *prima facie* obviousness has not been established with respect to claims 3 and 25.

Because *prima facie* obviousness has not been established, the § 103(a) rejection of claims 3 and 25 should be withdrawn. Applicant therefore requests withdrawal of the § 103(a) rejection and the timely allowance of these pending claims.

New claims 59 and 60

New independent claim 59 recites a combination including “establishing a first set of equations including equations modeling the system and initial condition constraints;” “establishing a second set of equations including equations modeling the system and numeric integration equations that constrain integrated variables;” and “processing the first and second sets of equations independently and in parallel, to generate initial condition and transient solutions.” Applicant submits that the applied references, even if valid prior art to Applicant’s claims, fail to teach or suggest at least these features. Applicant therefore requests the timely allowance of new claim 59.

New claim 60 depends upon claim 59 and is thus likewise distinguishable over the applied references. Furthermore, the applied references fail to disclose or suggest the additional features of new claim 60. Applicant therefore requests the timely allowance of new claim 60.

Conclusion

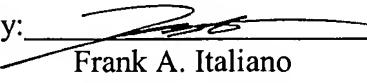
Applicant requests the reconsideration of this application in view of the foregoing and the timely allowance of pending claims 1-60.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
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Dated: March 2, 2006

By: 
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